

REMARKS

This is a timely response to the final Office Action, in which claims 1-40 were examined. Applicant notes, with appreciation, that claims 1-35, 39 and 40 were allowed, and that claim 38 was said to contain allowable subject matter. Claims 36 and 37 were rejected. Favorable reconsideration and allowance of the rejected and new claims in light of the amendments and arguments presented in this response, are respectfully requested.

THE AMENDMENTS

Claim 38 has been rewritten in independent form to include all the limitations of parent claim 36, as suggested by the Examiner. Accordingly, claim 38 should be allowed.

Claim 36 has been amended to recite that each nozzle has a plurality of melt channels and a plurality of valve pins. Arrangements of this type are shown in Figs. 5 and 6.

New claim 41 is based on claim 36 prior to the above amendment, and adds that the actuator is a multiple-piston actuator. This feature, too, is shown in Figs. 5 and 6. New claim 42, which depends from claim 41, adds the plural melt channel and plural valve pin limitations recited in twice amended claim 36.

THE REJECTION

The sole rejection of claims 36 and 37 under 35 USC § 103(a) as being unpatentable over Osuna-Diaz (US 5,078,589) in view of Gellert (US 4,917,594) is new, and is respectfully traversed. Reconsideration and withdrawal of the rejection are respectfully requested.

The injection molding systems disclosed in these references are very different. Specifically, the Osuna-Diaz system is configured for lateral melt feed (via passages 16 in manifold plate 18). In contrast, Gellert's system is configured for central melt feed (note central melt inlet 116). Given this fundamental difference, it would have been illogical for one of ordinary skill in the art to have looked to Gellert for a suggested rearrangement of Osuna-Diaz's parts. Neither reference contains any indication that a problem or shortcoming may exist in Osuna-Diaz's arrangement. Therefore, it is not seen that the hypothetical person of ordinary skill would have been motivated to change anything in Osuna-Diaz.

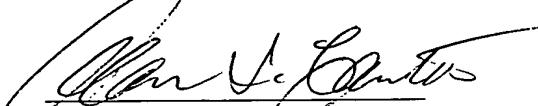
"The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also *suggests* the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1420 (Fed. Cir. 1990)." M.P.E.P. § 2143.01 (emphasis added). There is no suggestion in either reference to combine their teachings.

Further, claim 36 has been amended to recite that each nozzle has a plurality of melt channels and a plurality of valve pins. These limitations are also recited in new claim 42. Neither Osuna-Diaz nor Gellert discloses or suggests this arrangement. Also, new claim 41 (which is based on claim 36 prior to the above amendment) adds that the actuator is a multiple-piston actuator. Neither reference discloses or suggests this structure either.

CONCLUSION

In view of the forgoing, it is respectfully submitted that the present claims are all in condition for allowance. An early notice to that effect is earnestly solicited. Should there be any questions, the Examiner is invited to contact the undersigned at the number shown below.

Respectfully submitted,



Alan I. Cantor
Registration No. 28,163

March 3, 2003

Date

FOLEY & LARDNER
Customer Number: 22428



22428

PATENT TRADEMARK OFFICE

Telephone: (202) 672-5300
Facsimile: (202) 672-5399

SHOULD ADDITIONAL FEES BE NECESSARY IN CONNECTION WITH THE FILING OF THIS PAPER, OR IF A PETITION FOR EXTENSION OF TIME IS REQUIRED FOR TIMELY ACCEPTANCE OF SAME, THE COMMISSIONER IS HEREBY AUTHORIZED TO CHARGE DEPOSIT ACCOUNT NO. 19-0741 FOR ANY SUCH FEES; AND APPLICANT(S) HEREBY PETITION FOR ANY NEEDED EXTENSION OF TIME.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

36. (Twice Amended) Injection molding apparatus comprising:
an array of injection nozzles, each nozzle having a plurality of melt channels and a plurality of valve pins movable within the melt channel, each valve pin having a driven portion and a tip end that controls melt flow through a mold gate;
a melt distribution manifold in fluid communication with the array of injection nozzles; and
an actuating assembly for displacing the valve pins of the array of injection nozzles, comprising at least one actuator and a common linkage element driven by the actuator and linked to the driven portions of all of the valve pins of the array of injection nozzles to move the valve pins in unison, wherein the common linkage element moves along the same direction as the valve pins and the at least one actuator is located under the manifold.
38. (Amended) Injection molding apparatus [according to claim 36, wherein the at least one actuator] comprising:
an array of injection nozzles, each nozzle having a melt channel and a valve pin movable within the melt channel, each valve pin having a driven portion and a tip end that controls melt flow through a mold gate;
a melt distribution manifold in fluid communication with the array of injection nozzles; and
an actuating assembly for displacing the valve pins of the array of injection nozzles, comprising at least one actuator and a common linkage element driven by the actuator and linked to the driven portions of all of the valve pins of the array of injection nozzles to move the valve pins in unison, wherein the common linkage element moves along the same direction as the valve pins and the at least one actuator is located under the manifold and is centrally located among the injection nozzles.